

HAHN AND ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS

March 15, 2012

Mr. Dana Bayuk
Oregon Department of Environmental Quality
Northwest Region, Portland Office
Portland Harbor Section
2020 SW Fourth Avenue, Suite 400
Portland Oregon 97201-4987

HAI Project No. 2708
DEQ ECSI File No. 84

SUBJECT: Progress Report, NW Natural Gasco Property, 7900 NW St. Helens Avenue, Portland, Oregon

Dear Mr. Bayuk:

Hahn and Associates, Inc. (HAI) has prepared this monthly Progress Report summarizing Remedial Investigation/Feasibility Study (RI/FS) and source control-related work activities conducted by NW Natural that have occurred relating to the Gasco property during the month of February 2012. NW Natural is completing upland investigatory activities at the subject property under the Voluntary Agreement No. ECVV-WMCVC-NWR-94-13 (Voluntary Agreement) between NW Natural and the Oregon Department of Environmental Quality (DEQ).

1.0 Communications and Document Submittals

In correspondence dated February 1, 2012 (Bob Wyatt to Jim Anderson), NW Natural provided a response to DEQ's January 5, 2012 letter regarding remaining risk assessment issues.

In correspondence dated February 7, 2012 (Rob Ede to Daryll Hughes), HAI, on behalf of NW Natural, submitted a Wastewater Permit Application to the City of Portland for renewal of industrial wastewater discharge permit #500.022 for ongoing discharge of treated groundwater to the sanitary storm sewer.

In e-mail correspondence dated February 10, 2012 (Dana Bayuk to John Edwards), DEQ provided comments from review of the push probe drilling / alluvium material sampling portion of the *Upper Alluvium Extraction Well Design Work Plan*, dated January 31, 2012.

A teleconference with representatives of NW Natural, DEQ, and EPA was held on February 13, 2012 to discuss the scope of push probe drilling and alluvial material sampling as needed to support upper alluvium extraction well design.

In e-mail correspondence dated February 15, 2012 (Ben Hung to Dana Bayuk), Anchor QEA on behalf of NW Natural, provided DEQ with a list of issues related to the Gasco risk assessments that require resolution prior to completing the risk assessments. The e-mail also confirmed NW Natural's understanding that the scheduled February 23 risk assessment meeting would be conducted in lieu of the regularly scheduled February 20 monthly project meeting.

In e-mail correspondence dated February 15, 2012 (Dana Bayuk to John Edwards), DEQ provided a summary of February 13 teleconference discussions including

conditional approval for NW Natural to proceed with push probe drilling and alluvial material sampling in support of location-specific design(s) of the upper alluvium extraction wells.

In e-mail correspondence dated February 15, 2012 (John Edwards to Dana Bayuk), Anchor QEA, on behalf of NW Natural, provided concurrence / acceptance of DEQ's February 15 conditional approval of push probe drilling and sampling activities. Anchor QEA provided DEQ notice that drilling was scheduled to commence on February 17.

In e-mail correspondence dated February 16, 2012 (Dana Bayuk to John Edwards), DEQ provided approval for push probe drilling activities to commence on February 17, and requested updates over the course of the work so DEQ could arrange for site visits.

A meeting with representatives of DEQ and NW Natural was held on February 23, 2012 to discuss and reach agreement on outstanding items requiring resolution in order to complete the risk assessments.

In e-mail correspondence dated February 23, 2012 (Jim Anderson to Bob Wyatt and Ben Hung), DEQ provided a summary of agreements reached between DEQ and NW Natural during the February 23, 2012 risk assessment meeting.

On February 28 John Edwards, John Renda, Dana Bayuk, and Henning Larsen had a conference call to discuss issues surrounding the use of a roto sonic rig at locations where there had been push probe refusal. The call also included discussion of technical issues related to alternative methods for placing an annular seal below the DEQ-required DNAPL funnel in Segment 1 monitoring wells and extraction wells.

2.0 Field Work

Field activities related to monitoring and maintenance of the dense non-aqueous phase liquid (DNAPL) extraction system at surficial fill well locations MW-6-32 and MW-13-30 occurred during February. The system recovered approximately 69 gallons of fluids (primarily DNAPL) during February. No DNAPL was manually removed from well PW-01-80 during February.

Discharge of treated water (groundwater from the LNG containment basin) to the City of Portland sanitary sewer was initiated on March 16, 2007 under Temporary Wastewater Discharge Permit 500.022 (expires February 15, 2012). Results of NW Natural's effluent sampling are provided to BES in Discharge Monitoring Reports that are submitted for any month that effluent sampling occurs – which is at least every other month in accordance with the permit. As of February 29, 2012 a total of 1,974,843 gallons of treated water have been discharged to the sanitary sewer in 2012.

Push probe drilling activities as approved by DEQ in e-mail correspondence dated February 16, 2012 were initiated by Anchor QEA on February 17, 2012 and continued through the remainder of the month and into March. During February borings GP-PW-2, GP-PW-3, and GP-PW-5 were completed. By February 27 Anchor QEA and DEQ had agreed on the soil samples to be tested and the samples were submitted to the lab for grain size analysis.

3.0 Anticipated Activities in March and April 2012

A memorandum providing the results of the push probe drilling / alluvium material sampling activities as completed in February and March 2012 for design of upper alluvial WBZ extraction wells is expected to be submitted to DEQ in March 2012 (submitted March 14). Installation of the monitoring wells and extraction wells is anticipated to follow as soon as possible, contingent upon DEQ approval. The current plan is to begin installing observation wells and piezometers on March 19. Under the alternative recommended by DEQ in a March 14 email, a single temporary piezometer will be installed adjacent to PW-2 and PW-3 for hydrologic monitoring purposes during the step drawdown testing. Under that alternative, monitoring wells MW-26U, 33U, 35U, and 37U will not be installed for hydrologic monitoring during the step drawdown testing. Observation wells OW-1 and OW-2 will also be installed.

Further coordination with DEQ is needed to reach agreement on a feasible method for placing the annular seal below the DEQ-required DNAPL funnel when installing upper alluvium extraction wells PW-2U, 3U, 5U, and 6U. Since the wells are scheduled to be installed beginning the last week of March or first week of April, a methodology acceptable to DEQ and NW Natural should be reached by then.

TarGOST borings for baseline DNAPL monitoring are planned to occur in March/April, contingent upon receipt of DEQ approval of the Work Plan to Assess Baseline Groundwater Conditions that was included with the *Source Control Construction Design Report*.

NW Natural will submit a revised *Field Sampling Plan for TPH Fraction Data Gap Sampling* in March (submitted March 8, 2012).

The First Quarter 2012 routine groundwater monitoring event is anticipated to occur during the March 2012 timeframe. NW Natural will submit a request for modifications to the routine groundwater monitoring analyte list prior to this monitoring event (submitted March 9, 2012).

NW Natural will submit a *Work Plan for Human Health and Ecological Risk Assessment for Gasco* to DEQ by March 22. The risk assessment work plan will incorporate agreements that have been reached between DEQ and NW Natural.

NW Natural and DEQ technical working group meetings are anticipated to occur during March and April 2012, as needed, so that discussion of critical items related to upland risk assessment and groundwater source control tasks may be conducted.

The following reports and work plans for the Site have been submitted to DEQ through the date of this progress report. Unless otherwise noted, these reports and work plans have not received DEQ review and comment.

- *Source Control Evaluation Report, "Segment 3" Siltronic Property Related to NW Natural "Gasco" Site*, February 19, 2009, Anchor QEA. Based on DEQ feedback, DEQ review of this document is prioritized behind reviews for Segments 1 and 2 Source Control Design documents and upland Risk Assessment-related reviews.
- *Final Stormwater Source Control Data Summary Report*, September 2010, Anchor QEA. Based on DEQ feedback, DEQ review of this document is prioritized behind reviews for Segments 1 and 2 Source Control Design documents and upland Risk Assessment-related reviews.

- *Remedial Investigation Data Summary Report, Historical Manufactured Gas Plant Activities, Siltronic Corporation Property*, March 31, 2011, HAI. Based on DEQ feedback, it is understood that DEQ review is being conducted at this time.
- *Draft Revised Groundwater Source Control Construction Design Report (CDR)*, January 31, 2012, Anchor QEA. Along with the CDR three other documents were submitted to DEQ.
 - Wastewater Treatment Final Design Report (Sevenson, 2012)
 - Upper Alluvium Extraction Well Design Work Plan (Anchor QEA, 2012)
 - Work Plan to Assess Baseline Groundwater Conditions (Anchor QEA, 2012)

Based on DEQ feedback, review of this document is of the highest priority – with review of *Upper Alluvium and Baseline Monitoring Workplans* and the *Treatment System Design Report* first so that implementation may proceed while the remaining document undergoes review. To date, the push probe drilling / alluvium material sampling portion of the *Upper Alluvium Extraction Well Design Work Plan*, has been approved.

- *Field Sampling Plan (FSP) for TPH Fraction Data Gap Sampling*, March 8, 2012, Anchor QEA. DEQ review of this FSP is anticipated to be completed by April 9, 2012 based on agreements with DEQ.
- *Proposed Revisions to the Groundwater Monitoring Program*, March 9, 2012, Hahn and Associates, Inc. Review of this document by DEQ is desired prior to initiating the First Quarter 2012 monitoring event in late March.

Should you have any questions, please contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read 'Rob Ede', with a stylized flourish extending from the end.

Rob Ede, R.G.
Principal

robe@hahnenv.com

- c:
- Ms. Sandra Hart, NW Natural (electronic only)
 - Mr. Bob Wyatt, NW Natural (electronic only)
 - Ms. Patty Dost, Pearl Legal Group-PC (electronic only)
 - Ms. Sarah Riddle, Pearl Legal Group PC (electronic only)
 - Mr. Carl Stivers, Anchor QEA, L.L.C. (electronic only)
 - Mr. John Edwards, Anchor QEA, L.L.C. (electronic only)
 - Mr. Ben Hung, Anchor QEA, L.L.C. (electronic only)
 - Mr. Ryan Barth, Anchor QEA, L.L.C. (electronic only)
 - Mr. Henning Larsen, DEQ NW Region (electronic only)

Mr. Tom Gainer, DEQ NW Region (electronic only)
Mr. Tom McCue, Siltronic Corporation (electronic only)
Ms. Kristine Koch, Region 10 EPA (electronic only)
Mr. Sean Sheldrake, Region 10 EPA (electronic only)
Mr. Rene Fuentes, Region 10 EPA (electronic only)
Mr. Chip Humphrey, Region 10 EPA (electronic only)
Mr. Lance Peterson, CDM, Inc. (electronic only)